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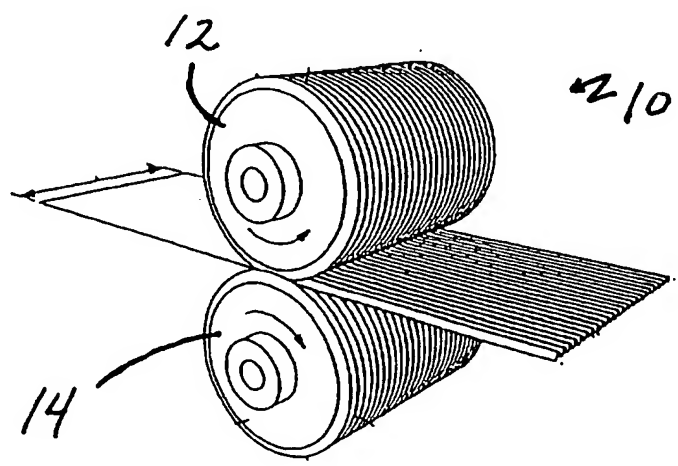
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ELASTOMERIC MULTICOMPONENT FIBERS, NONWOVEN WEBS AND NONWOVEN FABRICS



CROSS DIRECTION

(57) Abstract: A bonded web of multi-component strands that include a first polymeric component and a second polymeric component is capable of overcoming a number of problems associated with nonwoven webs including both stickiness and blocking. The first polymeric component and second polymeric component are arranged in substantially distinct zones extending longitudinally along at least a portion of a length of the strands which make up the web with the second component containing a zone constituting at least a portion of the peripheral surface of the strand. The first polymeric component also has an elasticity which is greater than that of the second polymer component. A process producing elastomeric spunbonded nonwoven fabrics which utilizes the activation by incremental stretching of the strands is also provided.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/33629

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : D04H 3/08; B32B 31/00; B29C 55/00; D02J 1/22; B01J 19/32

US CL : 156/180-181,229; 264/288.4,290.5,291; 442/328-329,361-362,364

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 156/180-181,229; 264/288.4,290.5,291; 442/328-329,361-362,364

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,225,243 B1 (AUSTIN) 01 May 2001, see the whole document	28-29
A	US 5,997,989 A (GESSNER et al) 07 December 1999, see the whole document.	1-17 and 28-29
A	US 6,114,263 A (BENSON et al) 05 September 2000, see the whole document.	1-17 and 27-28
A	US 5,814,569 A (SUZUKI et al) 29 September 1998, see the whole document.	1-17 and 28-29

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

29 April 2004 (29.04.2004)

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28 MAY 2004

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/33629

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claim Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-17 and 28-29

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-17 and 28-29, drawn to a method for producing an elastic nonwoven fabric and the product thereof.

Group II, claim(s) 18-25, drawn to an elastic nonwoven fabric.

Group III, claim(s) 26-27 and 30, drawn to a multicomponent fiber and a method of making the fiber.

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Independent claim 1 in Group I requires for example the following special technical feature (A): *"incrementally stretching a nonwoven ... to activate the elastic properties of the nonwoven web"*.

Independent claim 18 in Group II requires for example the following special technical feature (B): *"a multiplicity of bond sites or substantially randomly intertwined strands bonding the strands together to form a coherent bonded nonwoven web"*.

Independent claim 18 in Group II requires for example the following special technical feature (C): *"... said multicomponent fiber exhibiting an overall helical configuration which includes the components having less elasticity bulked around the elastomeric component."*

Independent claim 1 requires special technical feature A, but not B or C.

Independent claim 18 requires special technical feature B, but not A or C.

Independent claim 26 requires special technical feature C, but not A or B.

For this reason, a holding that these three groups do not relate to a single general inventive concept is proper.

Continuation of B. FIELDS SEARCHED Item 3:

EAST

search terms: incremental stretching, multicomponent fibers, elastic, non-elastic